

Appl. No. 09/974,775
Amdt. dated September 20, 2004
Reply to Office Action of April 20, 2004

REMARKS/ARGUMENTS

In the Non-final Office Action mailed April 20, 2004, the specification and claims 15-21 were examined. Applicant acknowledges with appreciation the allowability of claims 19-21. The specification was objected to for referring to FIG. 1 that allegedly was not included in the drawings. Claims 15-18 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over U.S. Patent No. 6,508,724 to Dalton ("the Dalton patent") in view of U.S. Patent No. 4,424,307 to DiEdwardo et al. ("the DiEdwardo patent").

Applicant respectfully requests withdrawal of the objection to the specification, and traverses the rejection of claims 15-18, for the reasons set forth below.

The Objection to The Specification

On page 2 of the Office Action, the specification was objected to. In particular, the Examiner stated that "the specification refers to figure 1, however figure 1 is not included in the drawings. Currently figures 2a-2c are present." However, FIG. 1 was included in the originally filed patent application, and has never been canceled from the patent application. Enclosed with this amendment are copies of originally filed FIG. 1 and the returned postcard indicating that one page of drawings was included in the original filing of the patent application. FIG. 1 was illustrated on the one page of drawings that was included in the original filing of the patent application. FIGS 2a-c were added to the patent application in an Amendment that was submitted for filing with the U.S. Patent and Trademark Office on July 29, 2003. An additional copy of the page of drawings that included FIGS. 2a-c was resubmitted for filing with the U.S. Patent and Trademark Office on December 23, 2003. Thus, Applicant respectfully requests withdrawal of the objection to the specification.

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The Invention

Before addressing the specific claim rejections, it will be helpful first to briefly summarize the invention of the pending claims.

The invention is embodied in a golf ball composition including a syndiotactic 1,2-polybutadiene; ionomeric polymers; and a crosslinking agent, co-crosslinking agent, crosslinking accelerator, or mixtures thereof. The syndiotactic 1,2-polybutadiene has a crystallinity between about 5% and about 50%, a mean molecular weight between about 10,000 and about 350,000, and a percentage of 1,2-bonds of greater than about 70%. The ratio by weight of the syndiotactic 1,2-polybutadiene to the ionomeric polymers ranges between about 5:90 and about 90:5, and the ratio by weight of the crosslinking agent to the syndiotactic 1,2-polybutadiene and the ionomeric polymers ranges between about 0.1:100 and about 10:100.

In additional embodiments of the invention, the ratio by weight of the crosslinking agent to the syndiotactic 1,2-polybutadiene and the ionomeric polymers ranges between about 0.1:100 and about 5:100. In other embodiments of the invention, the ratio by weight of the crosslinking accelerator and the co-crosslinking agent to the syndiotactic 1,2-polybutadiene and the ionomeric polymers ranges between about 0.1:100 and about 20:100.

The invention also is embodied in a golf ball composition including a syndiotactic 1,2-polybutadiene, polymers, and a copolymer. The syndiotactic 1,2-polybutadiene has a crystallinity between about 5% and about 50%, a mean molecular weight between about 10,000 and about 350,000, and a percentage of 1,2-bonds of greater than about 70%. The polymers are selected from the group consisting of ionomeric polymers, non-ionomeric polymers, and mixtures thereof. The copolymer has a glycidyl group, hydroxyl group, maleic

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anhydride group or carboxylic group. The ratio by weight of the syndiotactic 1,2-polybutadiene to the polymers ranges between about 5:90 and about 90:5.

In additional embodiments of the invention, the ratio by weight of the copolymer having a glycidyl group, hydroxyl group, maleic anhydride group or carboxylic group to the syndiotactic 1,2-polybutadiene and the polymers ranges between about 1:100 and about 20:100. In other embodiments of the invention, the ratio by weight of the copolymer having a glycidyl group, hydroxyl group, maleic anhydride group or carboxylic group to the syndiotactic 1,2-polybutadiene and the polymers ranges between about 1:100 and about 15:100.

The Rejection of Claims 15-18 Based on the Dalton Patent in View of the DiEdwardo Patent

On pages 2 and 3 of the Office Action, independent claims 15 and 17, and dependent claims 16 and 18, were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the Dalton patent in view of the DiEdwardo patent. Applicant respectfully traverses this rejection.

Regarding the Dalton and DiEdwardo patents, the Examiner, on pages 2 and 3 of the Office Action, stated the following:

Regarding claim 15, Dalton discloses a golf ball core composition comprising a first resilient material and a second reinforcing material (col. 6, lines 65-col. 7, lines 3). The reinforcing material may be a syndiotactic 1,2-polybutadiene (col. 10, lines 9-11). The resilient material may be a polybutadiene (non-ionic) (col. 7, lines 15-20). The composition also includes one or more crosslinking agents (Note: the additional crosslinking agent is equivalent to applicant's co-crosslinking agent.) and a free radical initiator (accelerator). The composition includes from 50 to 99% of the resilient material (polybutadiene) and 1 to 40% of the reinforcing material (1,2 poly) (col. 7, lines 1-10). The crosslinkers are present in the amounts from 10 to 24 phr (col. 7,

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lines 50-55). Dalton doesnot (sic) disclose the properties of the syndiotactic 1,2-polybutadiene. However, DiEdwardo teaches a syndiotactic 1,2-polybutadiene with more than 90% 1,2 units, an average molecular weight of more than 100,000 and a crystallinity from 15 to 25% (col. 5, line 10; col 6, lines 54-59). Regarding claim 16, the crosslinkers are present in the amounts from 10 to 24 phr (col. 7, lines 50-55) however lowering the amount is a modification within the capabilities of one skilled in the art. Regarding claims 17 and 18, the crosslinkers are present in the amounts from 10 to 24 phr (col. 7, lines 50-55) and the free radical initiator is present in the amount of 0 to 12 phr (col. 8, lines 24-30) . . .

The combination of the Dalton patent and the DiEdwardo patent *does not* teach the requirements of amended independent claims 15 and 17. In particular, the Dalton patent and the DiEdwardo patent *do not* teach or suggest, either individually or in combination, a "golf ball composition comprising: a syndiotactic 1,2-polybutadiene . . . ; *ionomeric polymers*; and a crosslinking agent, co-crosslinking agent, crosslinking accelerator, or mixtures thereof . . .," as required by amended independent claims 15 and 17 (emphasis added). For this reason, the § 103 rejection of amended independent claims 15 and 17, and dependent claims 16 and 18, is improper and should be withdrawn.

Conclusion

This application should now be in condition for a favorable action. Applicant respectfully requests entry of the Amendment and an early allowance of all claims herein. If for any reason the Examiner finds the application other than in allowance, the Examiner is requested to call the undersigned attorney at below-listed telephone number to discuss the steps

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necessary for placing the application in condition for allowance. If there are any fees due in connection with the filing of this amendment, please charge the fees to our Deposit Account No. 19-1853.

Respectfully submitted,

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Enclosures